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Docket No.: MWS-055

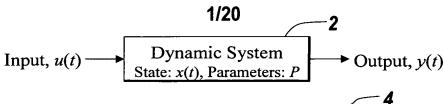
Inventor: Matthew ENGLEHART et al. Title: RATE GROUPING DURING CODE GENERATION FOR MULT-

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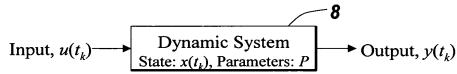


Output: $y(t_k) = f(t, x(t), u(t), P)$

Derivative: $\frac{dx(t)}{dt} = g(t, x(t), u(t), P)$

Fig. 1A

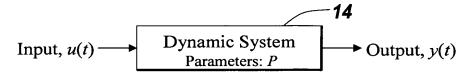
(prior art)



Output: $y(t_k) = f(t, x(t_k), u(t_k), P)^{-1}$

Update: $x(t_{k+1}) = g(t_k, x(t_k), u(t_k), P)$ 12

Fig. 1B (prior art)



Algebraic Eq : $f(u(t), y(t), P) = 0^{-1}$

Fig. 1C (prior art)

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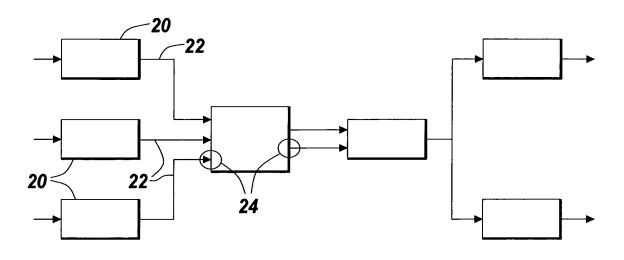


Fig. 2 (prior art)

$$u(t) = \frac{dx(t)}{dt} \xrightarrow{1/S} y(t) = x(t)$$
State, $x(t)$

$$x(t_0) = P_{IC}$$

Fig. 3 (prior art)

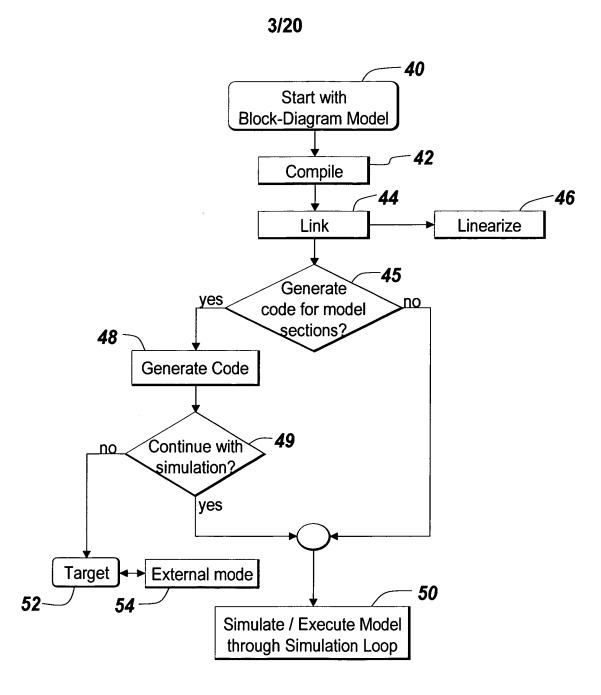
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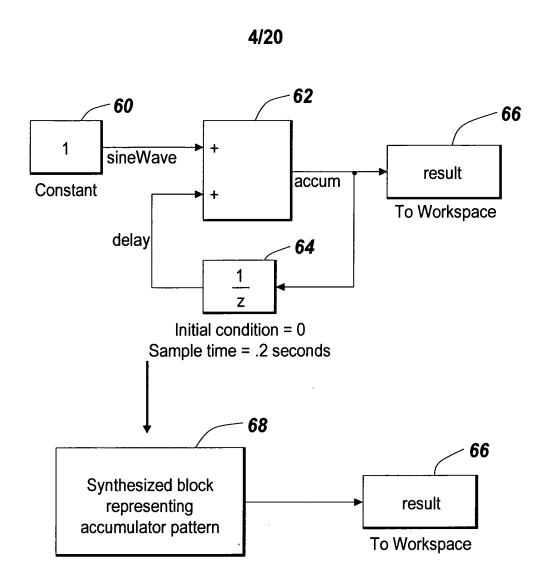


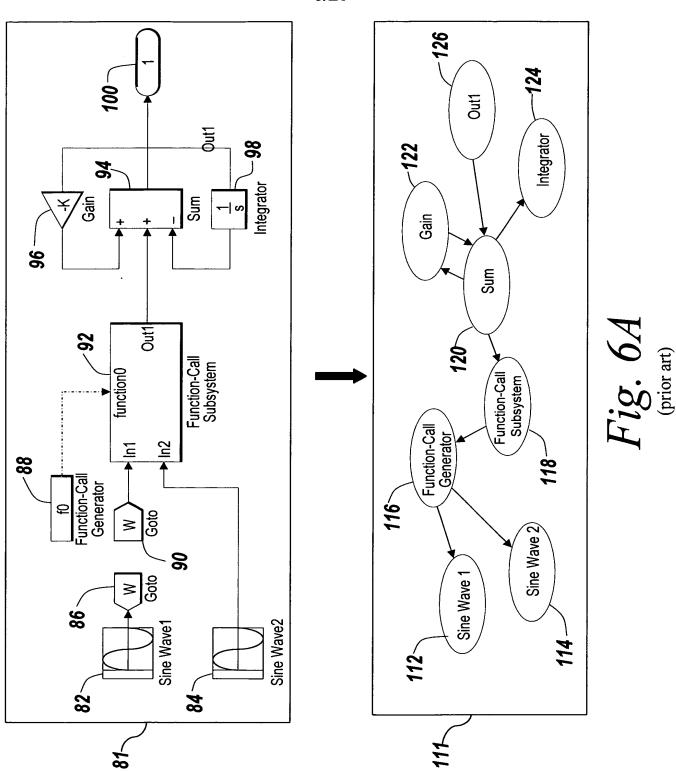
Fig. 5

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Sorted List:

0:0 Sine Wave 1

0:1 Sine Wave 2

0:2 Function-Call Generator

0:3 Function-Call Subsystem

0:4 Integrator

0:5 Gain (algebraic id 0#1)

0:6 Sum (algebraic variable for id 0#1)

0:7 Out1

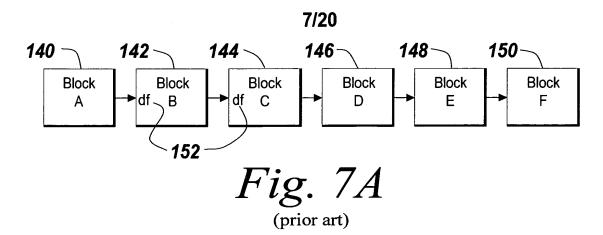
Fig. 6B

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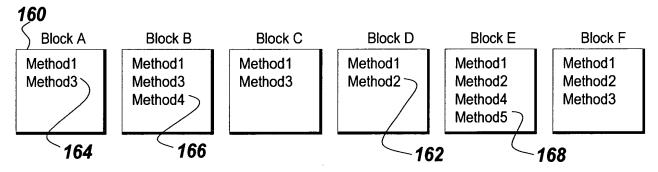
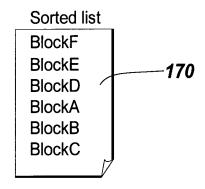


Fig. 7*B* (prior art)



(prior art)

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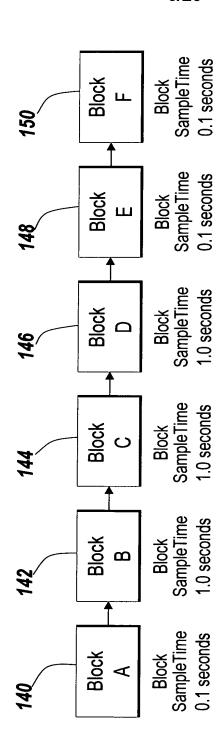


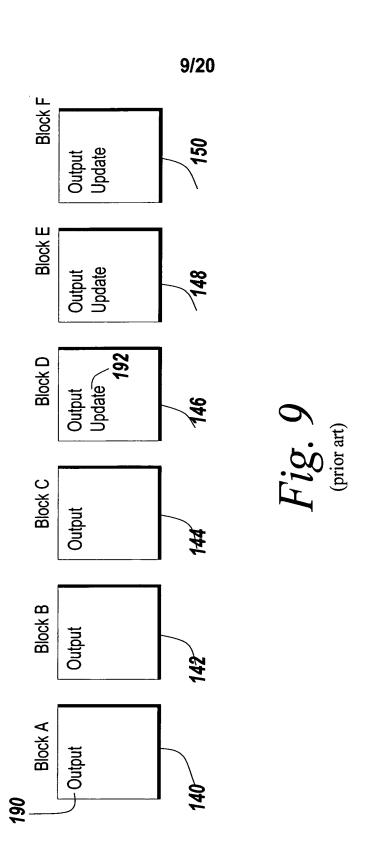
Fig. 8

(prior art)

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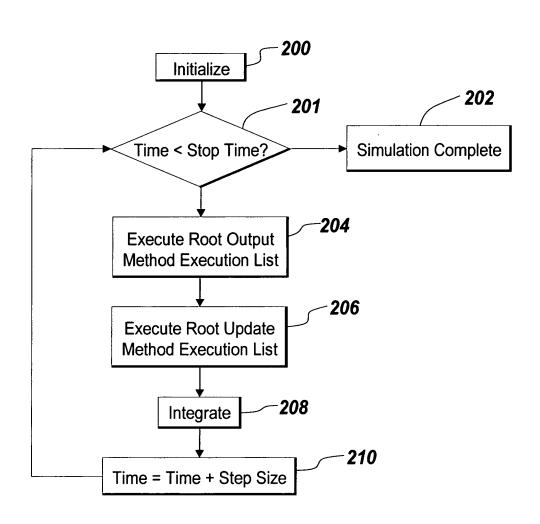


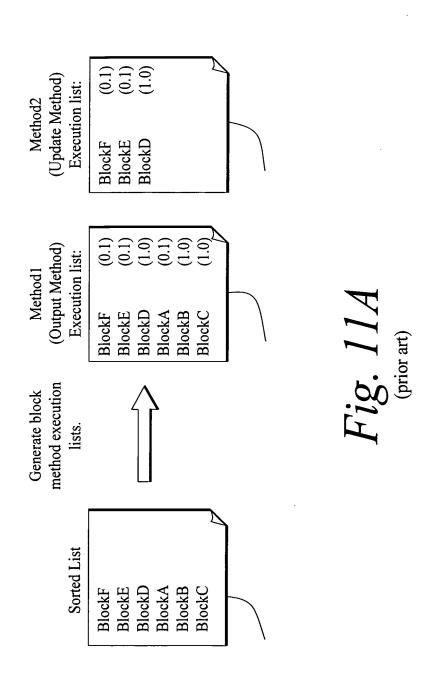
Fig. 10 (prior art)

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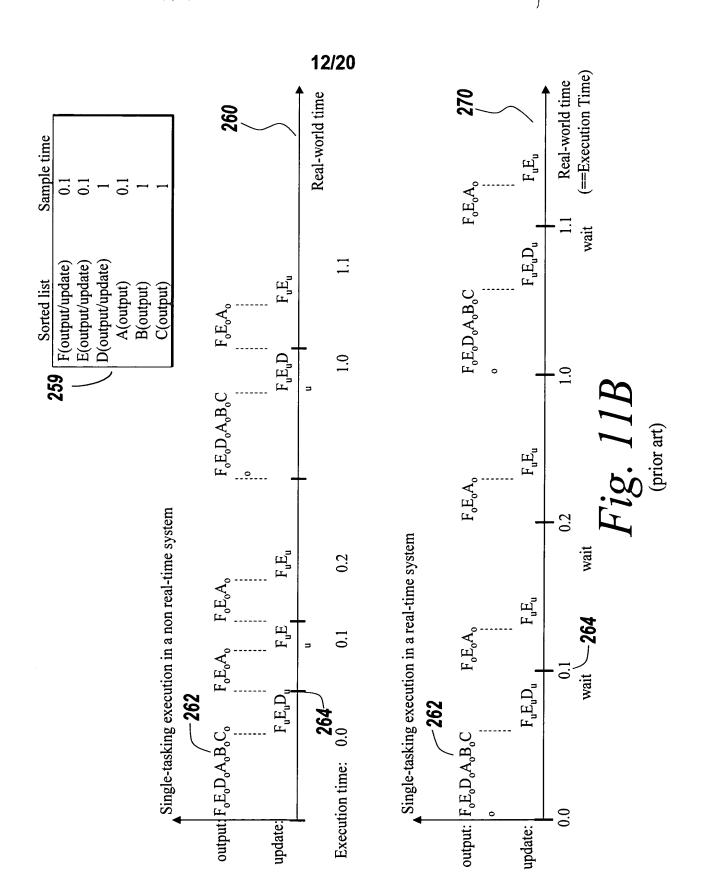
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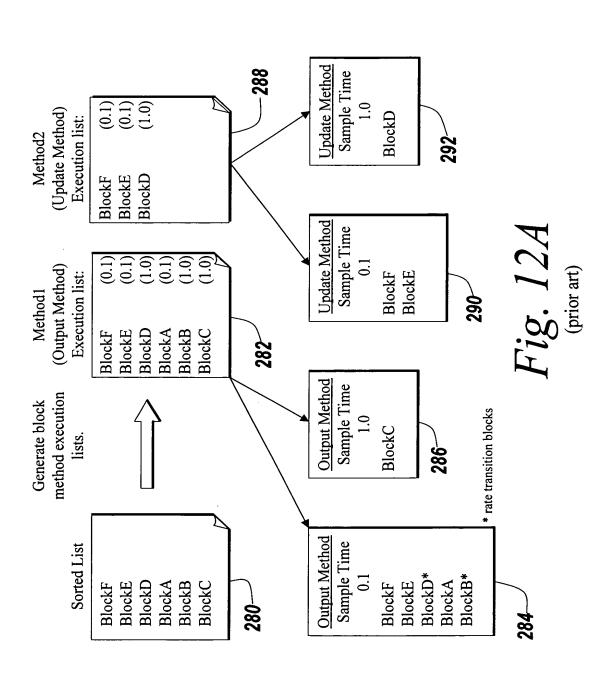
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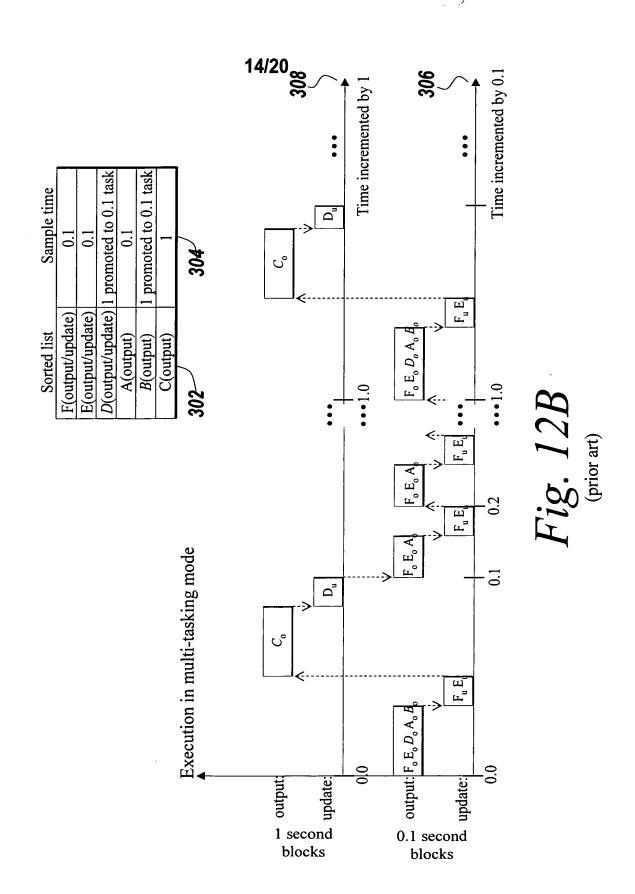


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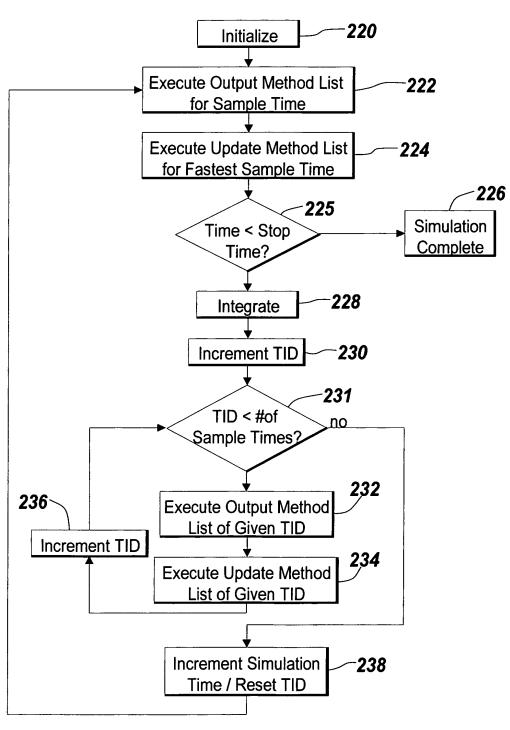


Fig. 13

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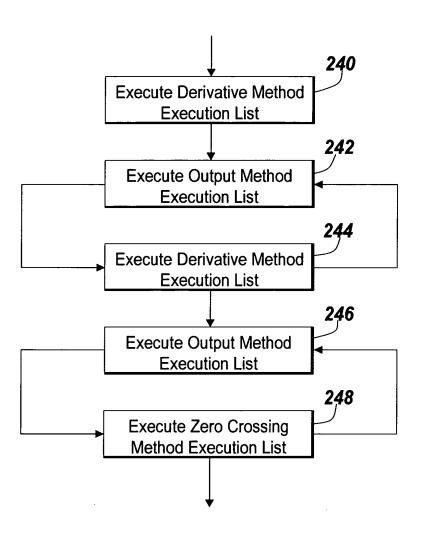


Fig. 14

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